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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,851	10/31/2003	Surya Varanasi	112-0135US	9321
29855	7590	10/15/2007		
WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P. 20333 SH 249 SUITE 600 HOUSTON, TX 77070			EXAMINER FAROUL, FARAH	
			ART UNIT 2616	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/698,851	<b>Applicant(s)</b> VARANASI ET AL.	
	<b>Examiner</b> Farah Faroul	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-95 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/22/2004</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The following Office Action is based on the preliminary amendment filed on September 12, 2005, having claims 1-95 and Figures 1-5.

#### ***Specification***

2. The abstract of the disclosure is objected to because of the following informalities:

The term "and/or" should be deleted from the abstract.

Correction is required. See MPEP § 608.01(b).

#### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 322. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

### ***Claim Objections***

4. Claims 1, 8, 12, 21, 24-27, 30-32, 36-40, 43-46, 50, 55-59, 62-65, 69, 74-75, 76-78, 84, 86, 92 and 95 are objected to because of the following informalities:

Claims 21, 24-27, 30-32, 36-40, 43-46, 50, 55-59, 62-65, 69, 74-75, and 76-77 recite the phrase "adapted to". The phrase is to be deleted to render the claims positive.

Claims 21, 40, 59 recite the term "capability". The term is to be deleted to render the claims positive.

Claim 25 recites the limitation "first said switch" in line 1. The limitation is to be replaced by "said first switch".

Claims 1, 8, 12, 21, 27, 31, 40, 46, 50, 59, 65, 69, 78, 84, 86, 92 and 95 recite the limitation "potentially reduce". Deletion of the word "potentially" is required to render the claims positive.

Claim 8, 12, 27, 31, 46, 50, 65, 69, 84, 86, and 95 recite the phrase "in terms of". Deletion of the phrase is required to render the claims positive.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-20, 26-39, 45-58, 65-67, 69-71, 74-77, 83-91 and 93-95 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, 26, 45, 64, and 83 recite the limitation "the frames". There is insufficient antecedent basis for this limitation in the claim as applicant has recited several flows of frames.

Claims 8-10, 12-14, 27-29, 31, 33-34, 46-48, 50-52, 65-67, 69-71, 84, 86 and 95 recite the limitation "as good or as better than". The limitation renders the claim vague and indefinite. The limitation is to be deleted.

Claims 16, 35, 54, and 73 recite the limitation "said links". There is no antecedent basis for this limitation in the claims.

Claims 17-20, 36-39, 55-58, 74-77, 88-91 recite the limitation "said frame" or "said frames". There is insufficient antecedent basis for this limitation in the claim as applicant has recited several flows of frames.

Claims 12, 31, 50, 69 and 86 recite the limitation "the particular exit port". There is no antecedent basis for this limitation in the claim.

Claims 17-20, 36-39, 55-58, 74-77, 88-91 recite the term "and/or". The term renders the claims vague and indefinite.

Claims 27, 46, 50, 65, 69, 84 and 95 recite the limitation "said flow". There is insufficient antecedent basis for this limitation in the claim as applicant has recited several flows of frames.

Claim 93 recites the limitation "said switching" in line 2. There is no antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 78-95 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant has recited "an article" in claims 78-95. The limitation "article" is directed to non-statutory subject matter. Though "an article of manufacture" is statutory subject matter, it is suggested that applicant amend the preamble of the claims as follows: "a computer-readable medium encoded with computer- executable instructions".

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-95 are rejected under 35 U.S.C. 102(b) as being anticipated by Valdevit et al. (US 2002/0156918 A1).

For claims 1, 21, 40, 59, 78, and 92, Valdevit discloses a host (figure 2, source or destination), a physical storage unit (figure 2, element 136)

A first switch (fig 2, 210-3,2) and a second switch (fig 2, 210-3,4) communicatively coupled to form a switch fabric (fig 2, 230 and 240) and the first and the second switch further communicatively coupled to the host and physical storage unit (see connections in figure 2)

At least the first switch (fig 4) including a processor (424 or 428) and memory (444) to balance the a flow of frames exiting the switch

The first switch selects an exit port of the switch from a set of possible exit ports through which a frame from the flow of frames will exit to reduce frame traffic congestion along potential routes that include the set of possible exit ports including at least some of the exit ports (paragraph 63 and Fig 6, blocks 602, 604-608 and 610) of at least two trunk groups (Fig 8A, elements 818 and 812)

For claim 2, Valdevit discloses at least all of the exit ports of at least two trunk groups (Fig 8A, elements 812 and 818)

For claims 3-4, 22-23, 41-42, 60-61 and 79-80, Valdevit discloses at least one of the trunk groups comprises four or eight exit ports (paragraph 51 wherein the trunk groups may comprise four or more exit ports and Figure 8A, elements 812 and 818)

For claims 5, 24, 43, 62, 81 and 93, Valdevit discloses the process comprises a pseudo-random process (paragraph 64, lines 1-5).

For claims 6, 25, 44, 63, 82 and 94, Valdevit discloses applying the pseudo-random process comprises applying a hash function (paragraph 64, lines 1-5).

For claims 7, 26, 45, 64 and 83, Valdevit discloses the hash function is applied to a set of parameters with the frames exiting the switch in order to select an exit port from the set of possible exit ports (paragraph 63).

For claims 8, 12, 27, 31, 46, 50, 65, 69, 84, 86 and 95, Valdevit discloses a weight or multiple weights is/are respectively assigned to at least some respective ones of the exit ports, employing the weights to select an exit port over alternative exit ports to achieve an function reflected by said weights (paragraphs 63 and 64).

For claims 9-10, 13-14, 28-29, 33-34, 47-48, 51-52, 66-67, 70-71, Valdevit discloses obtaining a higher or lower value objective function (paragraph 64, lines 11-29 wherein the objective function maybe a lower or upper value)

For claims 11, 15, 30, 32, 49, 53, 68, 72, 85 and 87, Valdevit discloses multiple weights at least in part reflect consumed bandwidth for particular routes (paragraph 64, lines 11-29 wherein the weights are based on particular paths).

For claim 16, 35, 54 and 73, Valdevit discloses at least some of the links are to one or more switches in a switch fabric (Figure 1, element 110).

For claim 17, 36, 55, 74, and 88, Valdevit discloses at least one of the set of possible exit ports is selected based at least in part on a source tag or destination tag added to the frame after the frame enters the switch (paragraph 63).



For claim 18, 37, 56, 75 and 89, Valdevit discloses the source tag or destination tag is stripped off the frame before the frame exits the switch (paragraph 63).

For claim 19, 38, 57, 76, and 90, Valdevit discloses at least one of the possible exit ports is selected based at least in part on a source tag and a destination tag added to each of the frames after the frames enter the switch (paragraph 63).

For claim 20, 39, 58, 77 and 91, Valdevit discloses the source tag or destination tag is stripped off each of the frames before each of the frame exits the switch (paragraph 63).

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-95 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-105 of copending Application No. 10/699,567. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following rationales:

Claim 1 of the instant application is a representative claim and it calls for:

A method of routing a flow of frames **through a switch** comprising:

Receiving at least one frame from said flow of frames

Applying a process to select **an exit port of said switch** from a set of possible exit ports through which at least one frame from said flow of frames will exit so as to potentially reduce frame traffic congestion **along potential routes** that include said set of possible exit ports, said set of possible exit ports including **at least some of the exit ports of at least two trunk groups;**

Transmitting said at least one frame

Claim 1 of the copending application is a representative claim and it calls for:

A method of routing a flow of frames comprising:

Applying **a correspondence** between at least some **logical ports and physical ports** of a switch; and

Balancing frame traffic through said switch, said frame traffic including frames exiting said switch via said physical ports, a selected physical port for at least one of said frames exiting said switch being selected based at least in part on **said correspondence**

A careful review of the claimed inventions one could clearly see that the claimed limitation of the copending application is a broader version of the instant application. However, there is a difference between the claimed inventions depicted in the bolded words. Such difference relates to the language usage or omitting limitation and it's deemed to be obvious or field expedient by a skilled artisan.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1-95 are provisionally rejected on the ground of nonstatutory obviousness- type double patenting as being unpatentable over claims 1-158 of copending Application No. 10/699,568. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following rationales:

Claim 1 of the copending application is a representative claim and it calls for:

A method of routing a flow of frames for **a core-edge switch configuration** comprising:

Receiving at least one frame of said flow of frames **at an edge switch of said configuration**

Applying a process to select **a route from said edge switch** to a core switch for said at least one frame of said flow of frames so as to potentially reduce frame traffic congestion in said core-edge switch configuration

Transmitting said at least one frame.

Claim 1 of the instant application is a representative claim and it calls for:

A method of routing a flow of frames through a **switch** comprising:

Receiving at least one frame from said flow of frames

Applying a process to select **an exit port of said switch** from a set of possible exit ports through which at least one frame from said flow of frames will exit so as to potentially reduce frame traffic congestion **along potential routes** that include said set of possible exit ports, said set of possible exit ports including **at least some of the exit ports of at least two trunk groups;**

Transmitting said at least one frame

A careful review of the claimed inventions one could clearly see that the claimed limitation of the copending application is a broader version of the instant application. However, there is a difference between the claimed inventions depicted in the bolded words. Such difference relates to the language usage or omitting limitation and it's deemed to be obvious or field expedient by a skilled artisan.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### **Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bare (US 2003/0179707 A1) and Yamada et al. (US 7,203,762 B2) are cited to show systems pertinent to applicant's invention.

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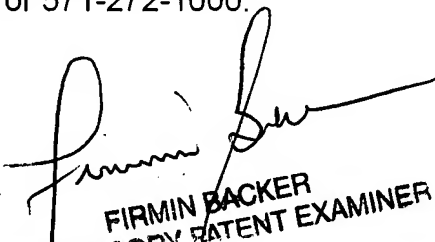
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farah Faroul whose telephone number is 571-270-1421.

The examiner can normally be reached on Monday - Friday 6:30 AM - 4 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

F.F.

  
FIRMIN BACKER  
SUPERVISORY PATENT EXAMINER